

CHAPTER 6

Cumulative Impacts

CEQA defines cumulative impacts as two or more individual impacts that, when considered together, are substantial or that compound or increase other environmental impacts. The cumulative analysis is intended to describe the “incremental impact of the project when added to other, closely related past, present, or reasonably foreseeable future projects” that can result from “individually minor but collectively significant projects taking place over a period of time (CEQA Guidelines §15355).

The analysis of cumulative impacts is a two-phased process that first involves the determination of whether the Project, together with past, present, and reasonably foreseeable future projects, would result in a significant impact. If there would be a significant cumulative impact of all such projects, the EIR must determine whether the Project’s incremental contribution to the impact is cumulatively considerable, in which case, the Project itself is deemed to have a significant cumulative effect (CEQA Guidelines §15130).

CEQA Guidelines §15130(b) provides two approaches to analyzing cumulative impacts. The first is a projections-based approach wherein the relevant projections contained in an adopted general plan or other planning document designed to evaluate regional or area-wide conditions are summarized. Sources containing projections relied upon in the cumulative impacts analysis in this EIR are identified in Section 6.1.1. The second is the “list approach,” which requires a listing of past, present, and reasonably probable future projects that could cause related or cumulative impacts. A list of such projects is provided in Section 6.1.2. This document uses a combination of the projections- and list-based and approaches; together the projections and projects analyzed are referred to as the “cumulative scenario.”

The geographic scope of area and time horizon considered for each cumulative impact evaluated in the EIR is dictated by the specific type and nature of impact being considered. For example, when considering the Project’s incremental contribution to cumulative air quality criteria pollutants, the geographic scope of area is the Bay Area air basin under the jurisdiction of the BAAQMD. Cumulative effects related to air quality could occur at any time during the reclamation period and/or during the post-reclamation maintenance and monitoring period. In contrast, geology impacts are site-specific and limited to the physical footprint of the Project Area, and water quality impacts are considered within the watershed in which the Project Area is located. Specific geographic and temporal scopes of cumulative effects consideration are identified on a resource-by-resource basis in Section 6.2.

6.1 The Cumulative Scenario

6.1.1 General and Regional Plans Containing Projections Considered in the Cumulative Scenario

This analysis of cumulative effects is based, in part, on a summary of the projections that have been included in one or more of the following adopted local, regional, or statewide plans:

- Santa Clara County General Plan (County of Santa Clara, 1994a, County of Santa Clara, 1994b);
- City of Cupertino General Plan 2000 – 2020 (City of Cupertino, 2005);
- The California Regional Water Quality Control Board San Francisco Bay Region’s Water Quality Control Plan (Basin Plan) (RWQCB, 2010); and
- The BAAQMD’s Bay Area 2010 Clean Air Plan (BAAQMD, 2010a)

These adopted plans have been prepared by local agencies to meet the requirements of state law, and reflect comprehensive, long-term visions for physical development within the region.

6.1.2 Projects Considered in the Cumulative Scenario

The cumulative effects analysis also relies in part on the “list of projects” approach (CEQA Guidelines §15130(b)(1)) to identify past, present, and reasonably foreseeable probable future projects that could cause environmental impacts that are closely related to those of the Project. Factors considered in determining whether to include a project on the list include whether it would cause impacts of the same nature as the Project, its location, the timing of its impacts, and the type of project. Other on-site activities are described in Section 6.1.2.1; other mining and reclamation activities that have occurred, are occurring, or will occur in the County are described in Section 6.1.2.2; and off-site, non-mining or reclamation-related activities are described in Section 6.1.2.3.

Development projects, the environmental impacts of which could combine with those of the Project, are or would be developed within approximately 3 miles of the Project Area. These projects are listed in **Table 6-1** and shown in **Figure 6-1**. As noted above, the geographic scope of cumulative effects consideration varies on a resource-by-resource basis. In general, the distance for each resource is bounded by the maximum reasonable extent that the Project could contribute to cumulative effects. The range varies from global, which is the appropriate area within which to consider GHG emissions, to the physical footprint of the proposed Project, which is the appropriate area within which to consider earthquake-related and similar hazards. Three miles was selected because it provides a reasonable range within which Project impacts could interact with the impacts of other projects for multiple resource areas, such as hazards and hazardous materials, noise, and traffic. Where the appropriate geographic scope of cumulative consideration varies from this distance, distinctions are noted on a resource-by-resource basis below.

**TABLE 6-1
LEHIGH PERMANENTE QUARRY RECLAMATION PLAN AMENDMENT CUMULATIVE IMPACT ANALYSIS PROJECTS LIST**

Map Key	Project Name	Location	Approximate Distance from Project Site	Description	Status/Schedule
Other On-site Activities					
1	Surface Mining	Within the Project Area	0 miles	See Section 6.1.2.1	Ongoing, scheduled to cease during the Project
2	Operation of the Permanente Cement Plant	Adjacent to the Project Area	0 miles	See Section 6.1.2.1	Ongoing
3	Permanente Creek Long-term Restoration Plan	Within and adjacent to the Project Area	0 miles	See Section 6.1.2.1	Ongoing
Other Santa Clara County Surface Mining and Reclamation Activities					
4	Curtner Quarry	Northeast of the City of Milpitas, east of Highway 680, off Scott Creek Road	14 miles	See Section 6.1.2.2	Active Mine
5	Lexington Quarry	East of the Lexington Reservoir, in the Santa Cruz Mountains southeast of the City of Los Gatos	9.5 miles	See Section 6.1.2.2	Active Mine
6	Stevens Creek Quarry	Approximately 3 miles south of Highway 280 and adjacent to the southern boundary of the Permanente Quarry property	0.85 mile	See Section 6.1.2.2	Active Mine
7	Freeman Quarry	South of Gilroy and west of Highway 101	23 miles	See Section 6.1.2.2	Active Mine
8	Serpa Quarry	Off Old Calaveras Road, near the City of Milpitas	14 miles	See Section 6.1.2.2	Reclamation in Progress
9	Acevedo Quarry	Surrounded by the City of San Jose on property west of Monterey Highway commonly known as Communications Hill	13 miles	See Section 6.1.2.2	Reclamation in Progress
10	Calaveras Quarry	East of the City of Milpitas, adjacent to Ed Levin County Park abutting Calaveras Road	14 miles	See Section 6.1.2.2	Reclamation in Progress
City of Los Altos Projects					
11	A few single-family residential replacement/ rebuilds and some new home construction are anticipated.	Within the City of Los Altos	The city limit is approximately 0.75 mile from the site	Single-family residential development	Undetermined

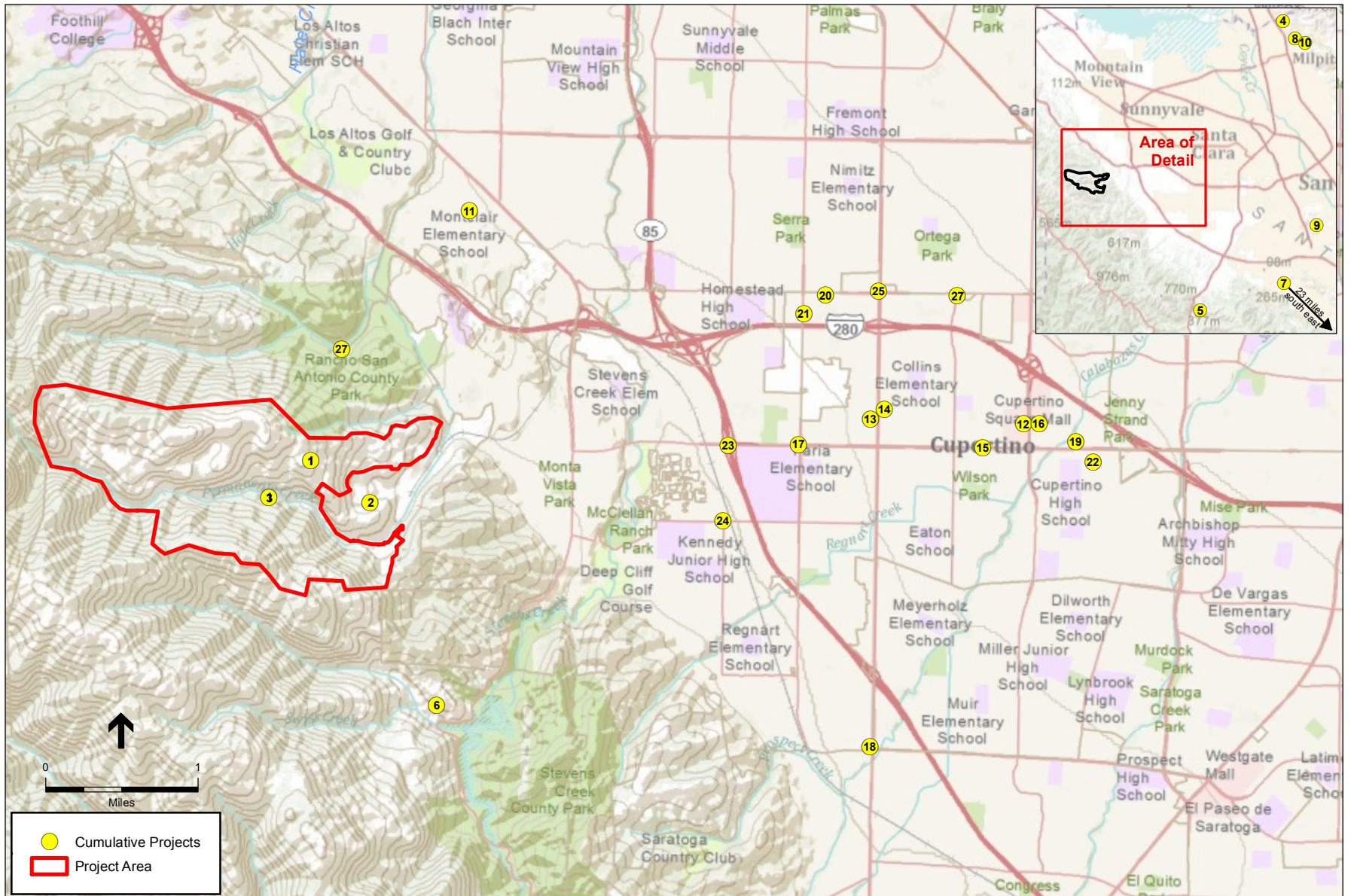
TABLE 6-1 (Continued)
LEHIGH PERMANENTE QUARRY RECLAMATION PLAN AMENDMENT CUMULATIVE IMPACT ANALYSIS PROJECTS LIST

Map Key	Project Name	Location	Approximate Distance from Project Site	Description	Status/Schedule
City of Cupertino Projects					
12	Vallco Mall	N. Wolfe Road & Vallco Parkway	3.75 miles	204 condominium dwelling units, 589,000 square feet of retail space, and 12,000 square feet of restaurant space. The development is expected to generate 518 a.m. peak hour trips and 2,231 p.m. peak hour trips.	Project approval expired, new project is anticipated but not approved.
13	Hyatt Place Hotel	10165 N. De Anza Blvd.	3 miles	4-story, 84,410-square-foot hotel including 123 rooms.	Under construction
14	The Learning Game	10212 N. De Anza Blvd.	3 miles	2,007-square-foot addition and conversion of an existing 2,864 square foot former auto repair building into retail commercial.	Recently completed.
15	Marketplace of Cupertino Building C	19770 Stevens Creek Blvd.	3.5 miles	34,300 gross square feet of mixed retail. The development is expected to generate 33 a.m. peak hour trips and 121 p.m. peak hour trips.	Recently completed.
16	Vallco Hotel	N. Wolfe Rd. & Vallco Parkway	3.75 miles	200-room hotel. The development is expected to generate 111 a.m. peak hour trips and 108 p.m. peak hour trips.	Anticipated but not approved.
17	De Anza College Expansion	Stevens Creek Blvd. & N. Stelling Rd.	2.5 miles	Expansion of existing campus. Expected to generate 980 a.m. peak hour trips and 1,120 p.m. peak hour trips.	Under construction.
18	Valero Gas Car Wash	1699 S. De Anza Blvd.	3.25 miles	846-square-foot automated car wash addition to existing gas station.	Recently completed.
19	Main Street Cupertino	North side of Stevens Creek Boulevard between Finch Avenue & Tantau Avenue	4 miles	250-room hotel, 160 units of senior housing, 150,000 square feet of retail, 100,000 square feet of office, 145,000-square-foot athletic club. Expected to generate 622 a.m. peak hour trips and 1,265 p.m. peak hour trips.	Approved January 2009; revised application anticipated November 2011.
20	Villa Serra	20800 Homestead Rd./10807 N. Stelling Rd.	2.75 miles	116 new apartment units added to existing residential development. Expected to generate 61 a.m. peak hour trips and 82 p.m. peak hour trips.	Recently completed.
21	U-2006-13	10855 N. Stelling Rd.	2.5 miles	19 dwelling units. Expected to generate 25 a.m. peak hour trips and 27 p.m. peak hour trips.	Recently completed.

TABLE 6-1 (Continued)
LEHIGH PERMANENTE QUARRY RECLAMATION PLAN AMENDMENT CUMULATIVE IMPACT ANALYSIS PROJECTS LIST

Map Key	Project Name	Location	Approximate Distance from Project Site	Description	Status/Schedule
City of Cupertino Projects (cont.)					
22	Tantau Retail and Parking Garage	10100 Tantau Ave.	4.25 miles	10,582 square feet of retail and a 26,500-square-foot parking garage. Expected to generate 73 a.m. peak hour trips and 53 p.m. peak hour trips.	Permit approval extended to August 2013.
23	Oaks Shopping Center	Stevens Creek & SR 85	2 miles	122-room hotel, 18,200 square feet of retail, 18,300 square feet of office, 14,400 square feet of meeting rooms. Expected to generate 178 a.m. peak hour trips and 355 p.m. peak hour trips.	Approved, expires September 2012.
24	One Results Way	Bubb Rd & McClellan Rd.	2 miles	11,015 square feet of office.	On hold; permit approval extended to July 2014.
25	Homestead Square	N. De Anza Blvd & Homestead Rd.	3 miles	17,340-square-foot pharmacy, 138,424-square-foot retail center, 48,024-square-foot supermarket. Expected to generate 63 a.m. peak hour trips and 261 p.m. peak hour trips.	Approved May 2010, revised application under review.
26	Apple Campus 2	Homestead Rd. & S. Wolfe Rd.	4 miles	2.8 million square feet of office, research and development space; 1,000 seat corporate auditorium; fitness center; central plant; 300,000 square feet of research facilities; and parking.	The City of Cupertino is currently preparing a Draft EIR, projected to be completed in the Spring of 2012.
Santa Clara Valley Water District / Santa Clara County Parks					
27	Permanente Creek Flood Protection Project	In Santa Clara County Rancho San Antonio Park	0.5 mile	Construction of detention basins and relocation of a parking lot. Excavation of materials is estimated to be approximately 187,000 cubic yards from the San Antonio Park site. Fill was to be exported off-site to an approved disposal site; however, the Water District and Lehigh have agreed to allow deposit of the material on the Lehigh property. This material would be deposited in late 2012. The future stockpile would be located near the EMSA.	The Water District certified a FEIR for the project in June 2010. The District is currently preparing a Supplemental EIR to address project changes including those at the San Antonio site. The NOP comment period closed in July 2011

SOURCE: County of Santa Clara_2011c; City of Cupertino, 2011c.



SOURCE: Lehigh, 2011; ESRI, 2011

Lehigh Permanente Quarry Reclamation Plan Amendment . 211742

Figure 6-1
Cumulative Projects

6.1.2.1 Other On-site Activities

Surface Mining at the Permanente Quarry

The Project Area contains approximately 1,238 acres that have been affected by surface mining operations since SMARA was adopted. Mining operations commenced at the Permanente Quarry site at least as early as 1903 and have been continuous in portions of the Project Area since 1939. The Quarry produces limestone for cement production and low calcium carbonate limestone for construction aggregate uses. Materials are extracted from the Quarry pit and overburden is disposed of in the WMSA, EMSA and along the west wall of the Quarry pit. For the EMSA, overburden material is added to the area and then rough-graded according to geotechnical design. Existing operational areas include: the Quarry pit, WMSA, EMSA, Crusher and Quarry Office Area, Surge Pile, and Rock Plant. Materials extraction is expected to continue until approximately 2025, depending on market demands for the mineral commodities produced.

As explained in the Reclamation Plan Amendment filed by the Applicant in July 2011 (EnviroMINE, Inc., 2011), mining activities occur 24 hours per day, 365 days per year. Such activities generally involve the removal of topsoil and overburden using heavy earth-moving equipment; excavation of mineral commodities using excavators, drilling, and blasting (blasting generally occurs Monday to Saturday between 10 a.m. and 6 p.m.); hauling of materials using front-end loaders, 100-ton and 150-ton off-road haul trucks, and conveyors; and then processing of the materials using vibrating screens, crushing and rock washing units, stockpiling, and storage. Final slopes then are graded to engineered slopes and benches.

Mining activity-related stormwater and erosion control measures are implemented, operated, and maintained within and adjacent to the Project Area, including settling ponds to address quarry run-off and operational water ponds.

Permanente Creek Long-term Restoration Plan

On July 27, 1999, the San Francisco Bay Regional Water Quality Control Board (RWQCB, or Regional Board) issued Cleanup and Abatement Order No. 99-018 regarding the “discharge of concrete and other wastes into Permanente Creek” from the Permanente Quarry, aggregate plant, and Cement Plant (RWQCB, 1999; URS, 2011). The order required the implementation of interim and long-term corrective actions, most of which have been satisfied. To fulfill the last requirement, Lehigh/ Hanson proposed the *Permanente Creek Long-term Restoration Plan* (Plan) to the Regional Board in March 2011 (URS, 2011). The Plan identifies reach-specific and site-specific restoration recommendations, identifies optional restoration design alternatives, contains implementation schedules, and updates prior reports based on more recent field reconnaissance. It focuses on the long-term removal of structures in and adjacent to the creek and the restoration of the creek’s riparian zone. Restoration recommendations are classified as one of four categories:

- Category I recommendations would address conditions that represent active erosion or other sediment sources to the Creek, have the potential to threaten site infrastructure (e.g., roads), and could be implemented without interfering with active operations. Category I recommendations be implemented within 5 years of final Plan approval.

- Category II recommendations are contingent upon the ability to remove infrastructure, and so are recommended for implementation upon closure of the Quarry, aggregate plant, and Cement Plant.
- Category III recommendations would be implemented only as warranted by post-closure monitoring.
- Category IV recommendations are not recommended for implementation.

On March 26, 2010, the Regional Board issued the Cement Plant a Notice of Violation for failure to comply with stormwater protection requirements. This notice required two things to occur: First, an update of site maps to clearly identify all structural control measures that affect stormwater discharges, authorized non-stormwater discharges, and areas where stormwater enters the site from surrounding areas; and second, the implementation and maintenance of best management practices to eliminate discharge of pollutants from Ponds 9 and 17 into Permanente Creek, reduce sediment discharge into Pond 9, prevent discharge of sediments from slope erosion, minimize exposure of pollutants to stormwater at the vehicle and equipment shop and washing area, eliminate prohibited non-stormwater discharges relating to vehicles and equipment, minimize exposure of pollutants to stormwater at a concrete maintenance pad, and prevent the discharge of sediments from the unstabilized Upper Quarry Road and areas around it.

A subsequent notice of violation was issued by the Regional Board on February 18, 2011, related to non-storm water discharges at the Cement Plant. On April 29, 2011, the Regional Board issued a complaint alleging that a pipe outfall (discharge) to Permanente Creek had not been disclosed despite a requirement to have done so, and, on June 10, 2011, the Cement Plant became subject to a Porter-Cologne Water Quality Control Act Section 13267 Investigative Order related to water quality concerns (RWQCB, 2011).

Cement Plant Operations

The Cement Plant is adjacent to the Project Area, south of the EMSA. It operates under a Use Permit that first was issued on May 8, 1939 (County File No. 173.023). The County approved Use Permit modifications in June 1950 and May 1955 to add rotary kilns to the operations, and on December 5, 1977, to modernize the plant (County of Santa Clara, 2011b). The Cement Plant employs approximately 175 skilled workers (Howell, 2007), and operates 24 hours per day, 7 days per week.

The Cement Plant produces Portland cement, the type of cement used in virtually all concrete, from raw materials including limestone, calcium, silica, alumina, and iron. Some of these materials are excavated from the Project Area; others are imported by rail or truck. The raw materials are crushed into a fine powder and blended in specified proportions and then heated in a pre-heater and rotary kiln, where it reaches temperatures of approximately 2,800 degrees Fahrenheit (BAAQMD, 2010b). The material formed in the kiln, called “clinker,” subsequently is ground and blended with gypsum to form the cement. According to the operator, the Cement Plant will continue to manufacture cement “long after the Quarry is exhausted of its limestone resource” (Howell, 2007). The Cement Plant also produces and sells construction aggregates, stores raw materials and water, and treats

wastewater (BAAQMD, 2010b; RWQCB, 2011). Specific environmental resource-related considerations are described below.

Aesthetics

The Cement Plant is visible from surrounding areas nearby including visually several sensitive locations that include trails within the RSA County Park/Preserve, and the Anza Knoll scenic vista.

Air Quality

As a major facility under the Clean Air Act, the Cement Plant operates pursuant to a permit issued by the Bay Area Air Quality Management District (BAAQMD) under Title V of the 1990 Clean Air Act Amendments, the federal Operating Permit Program and BAAQMD's Regulation 2, Rule 6-Major Facility Review (BAAQMD Facility No. A0017). The Cement Plant's first Title V Permit was issued on November 5, 2003; the comment period on a proposed revision of the facility's Title V Permit closed in Spring 2011. The primary criteria air pollutants emitted from cement manufacturing consist of nitrogen oxides (NO_x), sulfur dioxide (SO₂), and particulate matter (PM). BAAQMD reports current emissions from the Cement Plant to be in compliance with the requirements of the Title V permit (County of Santa Clara, 2011b). Related to particulate matter, Lehigh has prepared a Fugitive Dust Control Plan that contains mitigation measures, techniques and practices for monitoring and preventing dust emissions, as well as guidelines for employee training (Lehigh, 2011a).

Small quantities of volatile organic compounds (VOC), including the toxic air contaminant (TAC) benzene, also are emitted from the kiln. Other TAC emissions from the Cement Plant include trace metals such as mercury, cadmium, chromium, arsenic, and nickel (BAAQMD, 2010b). BAAQMD distributed a Health Risk Assessment (HRA) in September 2010, which contains information about mercury and other Cement Plant emissions. The HRA includes Table ES-2, which shows the average annual emission rate for mercury by the Lehigh Cement Plant was 582 pounds per year during 2005 (the high end of the plant's production) and 337 pounds per year in 2010, due to reduced production (County of Santa Clara, 2011b). Lehigh has committed to implement efforts to reduce mercury emissions by approximately 90 percent overall at the Cement Plant by 2013 (BAAQMD, 2011a).

In light of concerns about hexavalent chromium emissions near cement plants in California, the US EPA installed a detection system at Stevens Elementary School, which is located approximately 2 miles from the Permanente Cement Plant to take measurements. The results of six months of testing in 2009-2010 were that "levels of hexavalent chromium in the air at the school are below levels of concern for long-term exposure" (USEPA, 2010).

Hydrology and Water Quality

For a discussion of hydrology and water quality issues pertaining to operation of the Cement Plant, see the discussion above under Permanente Creek Long-term Restoration Plan. As noted in this discussion, the San Francisco Bay Regional Water Quality Control Board has issued several Notices of Violation to the Operator regarding stormwater discharge. These violations may

encompass stormwater discharges associated with either or both Quarry and Cement Plant operations. The Restoration Plan is intended to address water quality issues.

Noise

Operation of the Cement Plant kilns produces a low level “hum” that is slightly audible from nearby areas when other ambient noise is at its lowest, normally during the nighttime. Noise from the Cement Plant was accounted for as part of background noise evaluated in Section 4.13, *Noise*.

Traffic and Transportation

Operation of the Cement Plant is authorized under a use permit that the County issued on May 8, 1939. The use permit has been modified several times over the years, including 1950, 1955, 1977, and 1980. The permit does not impose any conditions on the number of trucks which may travel to and from the Cement Plant or by what routes. According to Lehigh, over the past 11 years (January 1990 to December 2010), the Cement Plant generated average of 45,112 truck trips per year. Traffic control/safety measures are in place along Stevens Creek Boulevard, including signage regarding speed limit for trucks and cameras to capture vehicles and trucks exceeding the speed limit (County of Santa Clara, 2011c).

6.1.2.2 Other Local Mining and Reclamation Activities

In addition to the Permanente Quarry, there are seven surface mining sites subject to SMARA within the County. Of these seven, four are actively engaged in extraction activities and three are in various stages of final reclamation (County of Santa Clara, 2011a). Each is shown in Figure 6-1 and described below; as shown in Figure 6-1, there is no geographic overlap between Permanente Quarry and the seven other surface mining sites.

Active Mining Operations

The Curtner Quarry (State Mine ID 91-43-0001) is located in an unincorporated part of the County northeast of the City of Milpitas, east of Highway 680, off Scott Creek Road. The County approved the current reclamation plan amendment for this quarry on August 14, 2008.

The Lexington Quarry (State Mine ID 91-43-0006) is located in an unincorporated part of the County east of the Lexington Reservoir, in the Santa Cruz Mountains southeast of the City of Los Gatos. Greywacke sandstone is mined at the quarry for construction aggregate, road base and general fill. The County certified an EIR and approved a use permit, reclamation plan amendment, and lot line adjustment on June 3, 2010, for a geographic expansion of mining operations and reclamation areas as well as an expansion of the hours of operation (OPR, 2010). The County determined that the project would result in cumulatively significant aesthetic impacts; however, all of the other potential significant effects would be mitigated to a less-than-significant level, including: impacts to recreational users along Alma Bridge Road, impacts to California Bay Riparian Forest, impacts to California red-legged frogs from quarrying activities, impacts to nesting raptors during vegetation removal, impacts to Limekiln Creek from sediment during reconstruction of the tributary creek channel onsite, impacts to groundwater resources for

neighboring residential wells from quarrying activities on the east face, impacts to drainage systems and reclamation from debris flows caused by placement of fines on quarry cut slopes, impacts to Limekiln Creek from potential debris flows and rockfall associated with mining activities, and impacts to neighboring residences from increased noise associated with mining and reclamation activities (County of Santa Clara, 2010a).

The Stevens Creek Quarry (State Mine ID 91-43-0007) is located in an unincorporated part of the County, approximately 3 miles south of Highway 280 and adjacent to the southern boundary of the Permanente Quarry property. It is owned and operated by Stevens Creek Quarry, Inc. (County of Santa Clara, 2009). The County approved a reclamation plan amendment for the Stevens Creek Quarry in 2009 to address compliance issues identified by OMR, including encroachment of quarry slopes at the eastern edge of the mined area, and disturbance of areas outside the approved reclamation plan boundary (an updated planting palette also was approved) (County of Santa Clara, 2011a, 2009a, 2009b; OPR, 2009). Mitigation Measures imposed as part of the County-approved Mitigated Negative Declaration for the reclamation plan amendment addressed impacts related to air quality (construction equipment-related air emissions), biological resources (Western Leatherwood, robust monardella, nesting birds, California red-legged frog, western pond turtles and/or southwestern pond turtles, bats, and oak woodland), cultural resources (prehistoric and historic cultural artifacts, human remains, and paleontological resources), geology and soils (slope stability), stormwater, and construction equipment-related noise (County of Santa Clara, 2009b).

The Freeman Quarry (State Mine ID 91-43-0010) is located in an unincorporated part of the County south of Gilroy and west of Highway 101. The County approved the current reclamation plan amendment for the quarry in 2008. The mine operator has submitted an application to the County for a use permit modification to authorize an expansion of the quarry from 61 acres to 149 acres, expand the allowed hours of materials transportation from 6 a.m. to 4 p.m. Monday through Saturday, and to amend the reclamation plan accordingly (OPR, 2011). The County issued a Notice of Preparation and, on August 10, 2011, held a public scoping meeting about the project. Preparation of a draft EIR is underway. County staff project that the draft EIR will be published in the spring or summer of 2012 (County of Santa Clara, 2011a).

Mines in the Reclamation Process

The Serpa Quarry (State Mine ID 91-43-0002) is located in an unincorporated part of the County off Old Calaveras Road, near the City of Milpitas. The County approved a reclamation plan amendment for this quarry on March 11, 2010 (County of Santa Clara, 2010b). The quarry operator submitted an application for another reclamation plan amendment on July 8, 2011, which, if approved, would modify the final contours of the land following completion of reclamation. The County expects to complete its environmental review and reach a decision on the proposed reclamation plan amendment by the end of 2011 (County of Santa Clara, 2011a).

The Azevedo Quarry (State Mine ID 91-43-0003) is surrounded by the City of San Jose on property west of Monterey Highway commonly known as Communications Hill. Active mining operations ceased in 1999 (County of Santa Clara, 2011a). Reclamation commenced under the approved reclamation plan in 1995; however, the County became aware in 2010 that active

reclamation had stopped but was not complete. It is reasonably foreseeable that remaining reclamation activities would be undertaken at the Azevedo Quarry at the same time that reclamation activities are occurring in the Project Area. In addition, a recycling facility located at the quarry processes and sells recycled concrete, asphalt, and soil (County of Santa Clara, 2011a).

The Calaveras Quarry (State Mine ID 91-43-0008) is located in an unincorporated part of the County east of the City of Milpitas, adjacent to Ed Levin County Park abutting Calaveras Road. This mine has not been active and has not produced any material for more than 18 years (County of Santa Clara, 2011a). On July 8, 2010, the County approved a reclamation plan amendment for the quarry to reduce the amount of grading that would be necessary to complete reclamation, protect existing biological habitat on the site, and change the re-vegetation plan to a mix more compatible with native species. Grading, hydro-seeding of disturbed areas, and installation of erosion control activities occurred in November and December 2010. The only on-going activities at the quarry include only monitoring and maintaining revegetated areas (County of Santa Clara, 2011a).

6.1.2.3 Off-site, Non-mining or Reclamation-related Activities

To identify off-site, non-mining, and non-reclamation related activities that would cause impacts that could interact with the incremental impacts caused by the Project, the County contacted the cities of Cupertino and Los Altos, Santa Clara Valley Water District, Caltrans, and evaluated projects being undertaken by the County Parks Department and Roads and Airports Department. The Santa Clara County Roads and Airports Department reported no projects. Projects identified by other local agencies are identified and summarized in Table 6-1.

6.2 Cumulative Effects Analysis

In reaching a conclusion for each resource area, five factors were considered: (i) the geographic scope of the cumulative impact area for that resource; (ii) the timeframe within which Project-specific impacts could interact with the impacts of other projects; (iii) whether a significant adverse cumulative condition presently exists to which Project impacts could contribute; (iv) any incremental Project-specific contribution to cumulative conditions; and (v) whether any project specific contributions are considered cumulatively considerable and thus are significant. The geographic scope of the cumulative effects analysis for each resource area is tailored to the natural boundaries of the affected resource. Existing conditions within the cumulative impacts area of effect reflect a combination of the natural condition and the effects of past actions. The analysis of cumulative impacts for each resource area analyzed in Sections 4.1 through 4.18 of this document is set forth below.

6.2.1 Aesthetics, Visual Quality, and Light and Glare

The geographic scope of cumulative impacts to visual quality includes the viewsheds that would be affected by the Project, consisting of views from public areas such as major or scenic roadways, parks and recreational areas, and scenic vistas. The temporal scope of impacts would include construction, operation, and maintenance of the Project.

The Project is located within a Design Review Zoning District, and would not conflict with applicable General Plan policies or Zoning Ordinance provisions. During reclamation activities, construction of the Project would result in impacts to affected viewsheds including scenic vistas, scenic roadways, and park and recreational areas during the 20-year period while reclamation is occurring. Construction impacts would be significant and unavoidable for the scenic vista at the Anza Knoll, from I-280 (a County-designated scenic roadway), and from trails within the RSA Preserve/ Park. Construction impacts would be less than significant for other scenic vistas, major and scenic roadways, and from other recreational and park areas. Long-term monitoring and maintenance of the Project would result in less than significant impacts for all impact criteria. Lighting required during construction would not adversely affect daytime or nighttime views in the Project Area with implementation of mitigation, and the Project would not create new sources of light or glare that would affect daytime or nighttime views in the area.

The Project would contribute to cumulative adverse conditions where construction activity and/or topography modifications occupy the same field of view as other built facilities or impacted landscapes that are currently in the viewsheds of sensitive viewers in the vicinity of the Project Area. The past, present, and reasonably foreseeable future projects described in Chapter 6, *Cumulative Projects*, include eight projects that would be within the same viewsheds as the Project (i.e., construction of the proposed Project and the cumulative project both would be visible from a given vantage point). These cumulative projects are identified below by Map Key number, consistent with Figure 6-1, *Cumulative Projects*, and Table 6-1:

- (1) Surface Mining – onsite activity within the Project Area; ongoing, scheduled to cease during the Project.
- (2) Operation of the Permanente Cement Plant – onsite activity adjacent to the Project Area; ongoing.
- (6) Stevens Creek Quarry – approximately 0.85 mile from the Project site; active mine.
- (15) Marketplace of Cupertino Building C – approximately 3.5 miles from the Project site on Stevens Creek Boulevard; 34,300 square feet of mixed retail; completed.
- (17) De Anza College Expansion – approximately 2.5 miles from the Project site on Stevens Creek Boulevard; expansion of existing campus; under construction.
- (19) Main Street Cupertino – approximately 4 miles from the Project site on Stevens Creek Boulevard; new hotel, senior housing, retail, office space, and athletic club; project approved.
- (23) Oaks Shopping Center – approximately 2 miles from the Project site on Stevens Creek Boulevard; new hotel, retail, office space, and meeting rooms; project approved.
- (27) Permanente Creek Flood Protection Project – approximately 0.5 mile from Project site in Rancho San Antonio County Park; construction of detention basins and relocation of a parking lot including excavation of approximately 187,000 cubic yards of materials; FEIR certified, Supplemental EIR under preparation.

Ongoing surface mining within the Project Area, operation of the Permanente Cement Plant, and operation of the Steven's Creek Quarry (cumulative projects (1), (2) and (6), above) were ongoing activities in 2007, and as such, are part of the visual baseline. When considered in combination with the impacts of these cumulative projects, the Project's incremental contribution to visual resources would not be cumulatively considerable because the continued operation of these industrial facilities is not anticipated to substantially alter the visual landscapes in which they are located. Damage to the visual character of the cumulative project locations has already occurred, and continued operation of these facilities will maintain the existing visual character (i.e., industrial) of the sites on which they are located. Accordingly, the Project's contribution would not be cumulatively considerable.

The construction of hotels, retail, office space, campus facilities, meeting rooms, and an athletic club (cumulative projects (15), (17), (19) and (23)) on Stevens Creek Boulevard would increase the presence of construction equipment and activity for viewers on this major roadway, which also provides views of the Project Area. However, these facilities would be constructed in a highly developed commercial/retail corridor, along which many other commercial buildings currently exist. Furthermore, the duration of construction for these projects is substantially shorter than the construction of the Project. The combined effects of the construction of cumulative projects (15), (17), (19) and (23) and the construction monitoring and maintenance of the Project would not substantially degrade scenic vistas, scenic highways, or the Project Area and its surroundings, nor would the combined effects create a new source of substantial light or glare. Accordingly, the Project's contribution would not be cumulatively considerable.

Impact 6-1: Project construction activities could make a cumulatively considerable contribution a substantial adverse effect on a scenic vista and degradation of the existing visual character or quality of the Project Area. (*Significant and Unavoidable Impact*)

Construction of the Permanente Creek Flood Protection Project would result in temporary visual disruption related to grading for the flood basin, and would create views of construction debris, construction staging and materials storage areas, soil stockpiles, and construction vehicles and equipment. Affected viewers would include recreationalists using the nearby trails within the RSA Preserve/ Park, and residents on Cristo Rey Drive. The period of construction-related visual disruption would be limited (approximately nine months during the first year of project construction), and mitigation would reduce impacts to a less-than-significant level by providing visual screening for affected construction areas, consisting of an 8-foot-high chain-link fence covered with fabric, or an equivalent. However, as discussed above, the proposed Project would have a significant and unavoidable impact to views from the Anza Knoll and trails within the RSA Preserve/Park, including the PG&E and Hammond-Snyder Loop trails. Construction of the Permanente Creek Flood Protection Project would occur concurrent with construction of Phase 1 of the Project; the Project would cumulatively contribute to the impacts caused by the Permanente Creek Flood Protection Project. As discussed in Section 4.1, *Aesthetics*, no mitigation measures have been identified to reduce significant impacts to views from the Anza Knoll scenic vista (Impact 4.1-1), or views from the RSA Preserve/Park (Impact 4.1-5). Similarly, no feasible

mitigation measure at the Project level have been identified that would be sufficient to reduce the cumulative impact to a level that is no longer significant.

Mitigation: None feasible.

Significance after Mitigation: Significant and Unavoidable.

6.2.2 Agriculture and Forestry Resources

The Project would have no impact on Agriculture and Forest Resources; therefore, it would not cause or contribute to any cumulative impact in this regard.

6.2.3 Air Quality

6.2.3.1 Criteria Air Pollutants

The geographic scope of potential cumulative criteria air pollutant impacts encompasses the Project Area, site, areas along the access and hauls routes to the Project Area, and the San Francisco Bay Area Air Basin. The temporal scope includes construction, operation and maintenance of the Project. The past, present, and reasonably foreseeable future projects described above in Table 6-1 include numerous development projects and quarries in Santa Clara County that could substantially increase the criteria air pollutant emissions within the Project vicinity and Bay Area Air Basin. According to the BAAQMD, no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards within the regional air basin. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. In addition, according to the BAAQMD *CEQA Air Quality Guidelines*, if a project exceeds the identified significance thresholds, its emissions would be considered cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions (BAAQMD, 2011b). Alternatively, if a project does not exceed the identified significance thresholds, then the project would not be considered cumulatively considerable and would result in less-than-significant air quality impacts.

As described in Section 4.3, *Air Quality*, in the context of Impacts 4.3-1 and 4.3-2, Project emissions of ROG, NO_x, PM10, PM2.5, and CO would not exceed the applicable BAAQMD thresholds and therefore would be less than significant and thus not cumulatively considerable.

6.2.3.2 Toxic Air Contaminants

The BAAQMD's *CEQA Air Quality Guidelines* include new standards and methods for determining the significance of cumulative health risk impacts for individual projects (BAAQMD, 2011b). The method for determining health risk requires the tallying of health risk from permitted sources and major roadways in the vicinity of a project, then adding the project impacts to determine whether the cumulative health risk thresholds are exceeded. Cumulative health impacts of cancer risks, chronic impacts, and PM2.5 concentrations are analyzed.

BAAQMD has developed a geo-referenced database of permitted TAC emissions sources throughout the San Francisco Bay Area and has developed the *Stationary Source Risk & Hazard Analysis Tool* (dated May 2011) for estimating health risks from permitted sources. One permitted source (the Lehigh cement kiln, plant baghouses, stationary generators, and fugitive sources) is located within 1,000 feet of the Project Area boundary. Cumulative health risk information associated with these sources was developed from the *Revised AB2588 Health Risk Assessment 2005, Average 2008/2009, and 2013 Production Scenarios for the Lehigh Southwest Cement Company* (AMEC Geomatrix, 2011). The HRA was approved by BAAQMD and OEHHA.

BAAQMD also has developed a geo-referenced database of roadways throughout the San Francisco Bay Area and has developed the *Highway Screening Analysis Tool* (dated May 2011) for estimating health risks from roadways. State Route 85 and Interstate 280 are located immediately east and north, respectively, but not within 1,000 feet of the site. Thus, the health impacts from these roadways were not included in the analysis. However, health impacts resulting from ongoing truck traffic associated with the hauling of cement and aggregate from the Lehigh site were included within the cumulative analysis.

Table 6-2 shows the cumulative cancer risk, chronic hazard, and PM_{2.5} concentrations (in $\mu\text{g}/\text{m}^3$) associated with nearby sources and the Project. As indicated in Table 6-2, the cumulative total cancer risk, acute and chronic hazard, and PM_{2.5} concentrations would be below the respective BAAQMD significance thresholds and therefore would not be considered cumulatively significant.¹ Note that with Mitigation Measures 4.3-3a and 4.3-3b (or, alternatively, 4.3-3c) as described in Section 4.3, *Air Quality*, the cumulative impact would be even further reduced.

**TABLE 6-2
CUMULATIVE HEALTH IMPACTS**

Site No.	Facility Type	Address	Cancer Risk (per million)	Acute Hazard Index	Chronic Hazard Index	PM _{2.5} ($\mu\text{g}/\text{m}^3$)
17	Lehigh Southwest Cement Company	24001 Stevens Creek Blvd	8.5	2.1	0.34	0.02 ^a
	Cement Trucks	24001 Stevens Creek Blvd	2.8	0.01	0.01	0.04
	Total: Cumulative Sources		11.3	2.11	0.35	0.06
	Proposed Project - Mitigated		69.5	1.13	0.27	0.58
	Total: Project + Cumulative		80.8	3.24	0.62	0.64
	BAAQMD Cumulative Significance Criteria		100	10	10	0.8
	Significant Cumulative Impact?		No	No	No	No

^a Adapted from Lehigh, 2011b, Table 8B

SOURCE: KB Environmental Sciences, Inc, 2011 (included in this EIR as Appendix E)

¹ The locations of maximum impact for the cement plant and for the Project are not the same, so adding the maximum impacts together is an overestimate of what the actual maximum cumulative impact would be at any sensitive receptor.

6.2.4 Biological Resources

The geographic context for analysis of cumulative impacts on biological resources encompasses the eastern side of the Santa Cruz Mountains and the Santa Clara Valley adjacent to San Francisco Bay, within a 5-mile radius of the Project Area. The distribution of special-status wildlife species that were considered for the Project spans much of the State of California, and sensitive communities and wetlands characterized in the Project Area are similarly present throughout the state. However, based on the magnitude of Project impacts as well as what would be considered “standards of practicality and reasonableness” as directed by CEQA Guidelines §15130(b), a regional context of biological resources is appropriate. Much of the Santa Clara Valley adjacent to San Francisco Bay is developed or otherwise built out. Each of the projects in Table 6-1 is considered for its contributions to any existing cumulative impacts in the region.

Impacts for all phases of the Project are considered in this cumulative assessment, as Project-level impacts potentially contributing to cumulative impacts could occur in any phase of reclamation. The temporal nature of impacts produced by cumulative projects in the region was considered, as impacts from cumulative projects may not occur simultaneously with Project-level impacts, which in turn could affect whether these impacts are cumulatively considerable.

Impacts on biological resources associated with the Project include removal of trees and shrubs that provide foraging opportunities, cover, and nesting and roosting opportunities for birds and bats; elevated sound levels that result in failure of nests and roosts for birds and bats; ground disturbance of ruderal and previously disturbed areas that results in failure of nests for disturbance-averse ground nesting birds; destruction of dusky-footed woodrat nests or removal of dense shrub habitat supporting woodrat nests; introduction of pathogens or invasive species that could jeopardize oak woodlands surrounding the Project Area; and potential secondary effects to aquatic habitat associated with selenium runoff to Permanente Creek. This EIR analysis either finds no significant impact or presents mitigation measures that would support a conclusion of “less than significant with mitigation” for all potentially significant impacts on biological resources with the exception of short-term impacts to Permanente Creek from selenium runoff. After final reclamation is complete, the impact from selenium runoff would be mitigated to a less than significant level.

Past projects, including establishment of seven other quarries in the region and extensive urban development in the Santa Clara Valley, have created cumulative impacts on special-status species, wetlands, and oak woodlands in the region. Existing operations at the Quarry and other quarry projects listed in Table 6-1 have the potential to contribute to cumulative impacts on biological resources. Much like the Quarry, these other facilities typically are located outside of urban development and adjacent to undisturbed natural habitats, which can potentially support special-status species and sensitive natural communities. Most quarries in the region were established no later than 1950, and the majority of their current operations occur in disturbed areas and do not affect biological resources considered in CEQA analyses. Additionally, all quarries are required to have a reclamation plan, which results in revegetation of habitats originally disturbed by the quarry operations and reduction of permanent impacts to biological resources. However, the potential for considerable contributions to the existing cumulative

impacts on special-status species, wetlands, and oak woodlands still exists, especially if quarries disturb natural habitat during overburden staging or maintenance activities. While a reclamation plan may prevent permanent impacts, temporary impacts over a period of decades still would occur while quarries are actively mining materials, and such impacts could contribute to existing cumulative impacts. Other projects potentially contributing to cumulative impacts include the Permanente Creek Flood Protection Project, which will occur in Rancho San Antonio County Park north of the Project Area. For that project, California red-legged frog populations could be impacted by excavation and construction of detention basins, along with wetlands and oak woodland habitat. Such impacts are not anticipated for the Project.

Despite many projects in the area potentially contributing to existing cumulative impacts, the Project's incremental impact would not be cumulatively considerable except for the impact from selenium runoff (discussed separately below). Temporary impacts on nesting birds and roosting bats could result from regrading and revegetation during implementation of the Project. No habitats in the Project Area are completely undisturbed, however, and wildlife present in the area is habituated to some degree of disturbance from quarrying activities. Measures proposed as part of the Project along with additional measures would prevent or reduce the magnitude of these temporary impacts. Once reclamation is implemented fully, habitat would be considerably improved for special-status species, as woodland, grassland, and scrub areas would be more abundant, and aquatic habitat conditions would be improved as a result of the removal of limestone-bearing boulders from and restoration of Permanente Creek and other areas of the PCRA from which they could enter the creek. No impacts on wetlands or oak woodland would occur during Project implementation, and so the Project would not contribute to cumulative impacts on these sensitive habitats.

With regard to short-term impacts from selenium runoff to Permanente Creek, the Project's individual contribution has been determined to be significant and unavoidable. Consequently, the cumulative impact would be cumulatively significant. Once final reclamation is complete, however, the Project's impact would be less than significant as selenium runoff would be effectively controlled. At that time, as there are no other cumulative projects in the area that could contribute incrementally to selenium concentrations in Permanente Creek, the Project would not contribute to a cumulative impact in that regard.

6.2.5 Cultural and Paleontological Resources

Because significant cultural and paleontological resources contribute to a region-wide understanding of prehistory and history, all past, present, and reasonably foreseeable projects within the southern San Francisco Bay Area could potentially contribute to a cumulative impact on these types of resources. In the example of the California Register-eligible Kaiser Permanente Quarry Mining District, a portion of the District's significance derives from its association with the nationally renowned historic figure of Henry J. Kaiser, and so the cumulative scenario for cultural resources in this analysis includes projects that could impact other properties that are associated with Kaiser. Archives & Architecture (2011) identified one other site in the San Francisco Bay Area that, like the Project site, is associated directly with Kaiser's expansion

period from 1939 – 1940s: Richmond Shipyard Number Three. This shipyard is part of the National Park Service’s Rosie the Riveter-World War II Home Front National Historical Park, and is located at Potrero Point in Richmond. The Kaiser Richmond Field Hospital was the first Kaiser Permanente hospital, and is listed in the National Register of Historic Places as a contributor to the National Historical Park. The field hospital is now closed and remains in its original location in South Richmond along Cutting Boulevard. The Kaiser Permanente Quarry Mining District and Richmond Shipyard Number Three are two sites in the region associated with the expansion period of Henry J. Kaiser. There are numerous other Kaiser-associated resources located throughout the Bay Area region. In addition, each of the projects listed in Table 6-1 are considered for their contributions to a potential cumulatively considerable impact to cultural and paleontological resources.

The Project would result in permanent impacts to cultural resources; therefore, the cumulative scenario analysis addresses both interim term (i.e., the period of active reclamation activities) and long-term potentially significant cumulative impacts.

Project Impact 4.5-1 acknowledges that the Project’s reclamation activities would have a significant and unavoidable permanent impact on contributing features of the California Register-eligible Kaiser Permanente Quarry Mining District. While mitigation is proposed to lessen this impact (Measures 4.5-1a through 4.5-1c), these measures would not fully offset the impact resulting from demolition of the Permanente Quarry Conveyor System and related tunnel and the remains of the early 1940s crusher. Impacts 4.5-2, 4.5-3, and 4.5-4 describe the potential for inadvertent discovery of archaeological resources, paleontological resources, and human remains during any earthmoving activities associated with reclamation. Mitigation measures are recommended for each of these Project impacts to reduce them to a less-than-significant level.

Other onsite activities, such as the Permanente Creek Restoration project, ongoing mining, and cement plant operations, would have no impact to cultural resources. For example, the Permanente Creek Restoration project would avoid the area near the historic Kaiser cabin.

6.2.5.1 Permanent Impacts to Historical Resources

The projects listed in Table 6-1 include mining and mine reclamation proposals similar to the Project, as well as residential and commercial development. None of the projects listed in Table 6-1 is known to affect any historical resources associated with Kaiser’s expansion period; as described above, the only other historical site in the region associated with Kaiser’s expansion period is the Kaiser Richmond Field Hospital, a contributor to the Rosie the Riveter-World War II Home Front National Historical Park. Although now closed, the Richmond site does not appear to be threatened. This facility stands by itself as a historic resource, and as such, the demolition of contributing features to the Kaiser Permanente Quarry Mining District would not directly affect the Kaiser Richmond Field Hospital site or the Rosie the Riveter/World War II Home Front National Historical Park, or other Kaiser-associated resources in the region.

Permanent impacts to historical resources within the region would be cumulatively considerable if development results in a net loss of regionally important historical resources. Although reclamation

activities would demolish several contributing resources of the Kaiser Permanente Quarry Mining District, the Project would not result in a significant loss of regionally important historical resources, given the large number of Kaiser-associated resources in the Bay Area that would continue to exist if the Project were approved, including such examples as the Kaiser Richmond Field Hospital site or the Rosie the Riveter/World War II Home Front National Historical Park. Therefore, the Project would not cause or contribute to a significant cumulative impact.

6.2.5.2 Short-term Impacts to Archaeological and Paleontological Resources and Human Remains

Many of the projects listed in Table 6-1 would involve grading, trenching, excavation, or other earthwork that has the potential to damage or destroy subsurface cultural and paleontological resources. Active mining projects, mine reclamation, residential and commercial construction, and infrastructure/civic projects such as the Permanente Creek Flood Protection Project all have the potential for inadvertent discovery of these resources during ground-disturbing activities. However, existing conditions in this respect are not significantly adverse. Consequently, the Project's less-than-significant impact would not cause or contribute to a significant cumulative impact, and its incremental contribution would not be cumulatively considerable.

6.2.6 Energy Conservation

Impacts resulting from the RPA would have a less than significant cumulative effect on energy resources with other past, present, or reasonably foreseeable future actions. The Project would consume electricity, diesel fuel, and gasoline, each of which are sourced and supplied on different geographic scales. While increasing global energy demand will impact the overall supply of these energy sources, supply and demand for these resources are more sensitive to local fluctuations in the energy market. Local demand, conservation efforts, and availability of energy providers and infrastructure all determine the local energy suppliers' capacity to provide services to additional energy consumers. Therefore, the geographic scope of the cumulative effects analysis for energy resources is localized to Santa Clara County. This geographic scope of cumulative impacts analysis includes local substations and distribution lines, as well as gasoline and diesel providers, all of which would service the project site and cumulatively relevant projects. The temporal scope of the cumulative impact analysis for energy resources spans all three phases of the Project, which is expected to be a total of 20 years. Throughout the reclamation process the Project would consume energy -- at times it would consume more than the baseline electricity, gasoline, and diesel use values and at other times it would consume less.

The reclamation process would restore the Project Area to a non-energy consumptive environment, which would ultimately help to reduce the County's energy use amid the growing energy demand created by the cumulative projects in Table 6-1. However, to reclaim the Project Area, a minimal amount of energy would be used to fill the Quarry pit and recontour the land. As explained in Section 4.6 the Project would have a less than significant impact on energy resources and would comply with all relevant state and federal energy policies or standards. During reclamation Phase 1, the Project would exceed baseline diesel consumption values and, during reclamation Phase 2,

would exceed baseline electricity values. Other than those limited-duration increases in energy consumption, the Project would consume less electricity, diesel, and gasoline than the baseline values. Additionally, the Project would utilize electricity-powered conveyors rather than petroleum-fueled vehicles to transport Quarry fill material. Based on the resulting energy efficiency, the Project would not have a cumulatively significant impact on energy resources.

All of the cumulative projects listed in Table 6-1 are energy consumptive projects. Three of the projects listed are reclamation projects, like the RPA; therefore, these three sites will be returned to their baseline conditions and reduce energy demand in the County. The majority of the remaining projects listed are mining, housing, hotel, and shopping center projects. The construction projects would require the use of petroleum-fueled vehicles during their temporary construction period. Once these projects are complete the majority of their energy use will be in the form of electricity consumption to heat and light the facilities. The local electric service provider, PG&E, has an obligation to meet electricity demand, allowing assurance that the cumulative projects' long term energy requirements will be met and electric resources will not reach capacity. The finite and temporary energy demand created by the RPA would be a less than significant contribution to the energy demanded by the cumulative projects in the County. Accordingly, no significant cumulative impact would result from the cumulative scenario to which the Project's incremental impact could contribute.

6.2.7 Geology, Soils and Seismicity

The entire Bay Area lies within a seismically-active region with a wide range of geologic and soil conditions that can vary widely within a short distance. Thus the cumulative context for potential impacts to people and structures related to geologic and seismic hazards is more localized or site-specific. The temporal scope includes construction, operation and maintenance of the Project. As analyzed in Section 4.7, *Geology and Soils*, the Project would have no impacts related to being located on expansive soils, or having soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems. The Project would cause less-than-significant, and in some areas beneficial, impacts related to exposing people or structures to potential substantial adverse effects (e.g., rupture of a known earthquake fault, strong seismic ground shaking, seismically induced ground failure, or landslides), erosion or loss of topsoil, unstable geologic units or soil, compaction or over-covering of soil, or changes in topography or unstable soil conditions.

Three of the projects in the cumulative scenario are adjacent to or within the Project site: cumulative projects (1) surface mining within the Project Area, (2) operation of the Permanente Cement Plant adjacent to the Project Area, and (3) restoration of Permanente Creek within and adjacent to the Project area. However, mining activity-related erosion control measures are implemented, operated, and maintained within and adjacent to the Project Area. It is not anticipated that these cumulative projects would result in significant impacts to geology or soil resources within or outside of the Project Area. Furthermore, as discussed in Section 4.7, *Geology and Soils*, implementation of the Project would improve slope stability in the WMSA and the Quarry pit above baseline conditions, and successful reclamation of the Project Area would return

erosion and soil loss to pre-mining conditions. The EMSA, which is the only RPA element that increases slope heights and gradients relative to the baseline setting, has been designed in a manner adequate to avoid unstable slope conditions. In addition, the potential for fault rupture within the Project Area is minor (in terms of both probability and magnitude). Therefore, when considered in combination with the impacts of other projects in the cumulative scenario, the Project's incremental contribution to geology and soils would not be cumulatively considerable.

6.2.8 Greenhouse Gas Emissions

The geographic scope of potential cumulative GHG impacts encompasses BAAQMD's jurisdictional area, statewide, national, and international. However, for purposes of practicality and reasonableness (see CEQA Guidelines §15130(b)), this analysis focuses on the state as a reasonable geographic boundary, including considerations related to effects on the attainment of state global climate change policies. The temporal scope includes construction, operation and maintenance of the Project. GHG emission-related impacts are by their nature exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA, 2008). Thus, the analysis and conclusions provided in Section 4.8, *Greenhouse Gas Emissions*, in Impacts 4.8-1 and 4.8-2 also are the cumulative effects analysis of GHG emissions. In summary, Project emissions of GHGs would be less than significant with implementation of mitigation measures (see Impact 4.8-1), and the Project would not conflict with any plans, policies, or regulations to reduce GHGs (see Impact 4.8-2). Thus, the Project would not result in a cumulatively considerable effect related to GHG emissions.

6.2.9 Hazards and Hazardous Materials

For hazards and hazardous materials, there are no Project-specific impacts related to location of the Project on a known hazardous materials site, within 0.25 mile of an existing or proposed school, or within 2 miles of a public airport or private airstrip. There are no impacts related to safety hazards due to site plan or construction of a building, road or septic system on a slope. In addition, there are no impacts on adopted emergency response or evacuation plans or wildland fire hazards. Construction, operation and decommissioning of the Project would result in less-than-significant impacts related to the potential for accidents and for the routine use of hazardous materials to release hazardous materials into the environment or cause harmful exposures. The Project also would result in a less-than-significant impact related to breeding grounds for vectors.

Depending on the pathway of exposure, the geographic scope for cumulative effects relating to hazardous materials would be the air basin, watershed boundary, groundwater basin, or extent of affected soils. Materials delivery routes also would be included in the event of a traffic accident-related spill. The temporal scope of hazardous materials impacts would occur throughout the life of the Project activities. The geographic scope for vectors would include areas of the County where standing water occurs. The Project could contribute to a cumulative effect related to vectors only during the interim phase while active reclamation is occurring. Thereafter, Project-specific ponds and basins would be reclaimed.

Many of the existing and reasonably foreseeable projects identified in Section 6.1 could cause similar impacts related to the potential for accidents and spills resulting in a release of hazardous materials during routine use, transportation, storage and disposal for construction and operation of these projects. Alone, the incremental impacts of the Project would not cause a significant adverse cumulative impact. Impacts caused by the cumulative projects, combined with the Project, would not result in a significant cumulative impact even if all of the projects were to be constructed simultaneously because the Project and all cumulative projects would be required to adhere to the robust body of regulations that govern hazardous materials transportation, storage and handling, water quality best management practices, and worker safety. Together, these measures would ensure that impacts related to exposure to hazardous materials would be minimized and/or avoided. Therefore, the Project's incremental contribution to any hazards and hazardous material-related cumulative impact would not be cumulatively considerable.

With respect to the potential to provide a breeding ground for vectors, several projects identified in Section 6.1 could cause similar impacts resulting from the use of stormwater sedimentation basins, including the surface mining in the Project Area, Cement Plant operations, and the Permanente Creek Flood Protection Project. Currently, the Quarry and Cement Plant operate about 25 basins, 20 of which are in the Project Area, and it is not known how many basins would be associated with the Permanente Creek Flood Protection Project. The Project would only contribute up to a 15 percent temporary increase in the number sedimentation basins in the Permanente Creek vicinity. Because the existing sedimentation basins have not been identified as mosquito breeding grounds or a vector control problem by the Santa Clara County Vector Control District (Romano, 2011). Accordingly, no significant cumulative impact would result from the cumulative scenario to which the Project's incremental impact could contribute.

6.2.10 Hydrology and Water Quality

The geographic scope of potential cumulative impacts related to hydrology and water quality is the Permanente Creek Watershed and the reach of Permanente Creek from the Project Area to the Stevens Creek Diversion structure. The geographic scope then includes Stevens Creek and Permanente Creek out to the San Francisco Bay. The temporal scope includes all three phases of reclamation starting with the reclamation of the EMSA in Phase I, ending after reclamation is complete, surface water conveyance is complete, and vegetative covers are established.

The two primary impacts are water quality and drainage. As discussed in Section, 4.10, *Hydrology and Water Quality*, during Project implementation there would be ongoing discharges from the Quarry pit from groundwater intrusion and stormwater runoff (including from a portion of the WMSA) and stormwater runoff from the EMSA and other portions of the Project Area. These discharges would contain selenium, total dissolved solids (TDS), and other constituents and would flow into Permanente Creek from the Project Area throughout the duration of the Project given the amount of ground disturbance, steep slopes, and construction activity. Selenium is the constituent of most concern because it is generated from the limestone rock present throughout the site and is found in higher concentrations along Permanente Creek adjacent to the EMSA and WMSA. This would be a significant and unavoidable impact during the Project. Once

reclamation is complete, however, implementation of mitigation measures is expected to reduce the levels of selenium in the discharges and runoff to the Creek to Basin Plan Benchmarks.

Other projects that would cause water quality impacts like those of the Project include the onsite surface mining (Cumulative Project No. 1) and operation of the Lehigh Cement plant (Cumulative Project No. 2). The onsite Permanente Long Term Restoration Plan (Cumulative Project No. 3) would likely reduce water quality impacts associated with sediment and selenium loading in Permanente Creek over the long term. Cumulative Project No. 27, the Permanente Creek Flood Protection Project, could generate sediment and, considering that the sediment would be placed on the EMSA, could potentially contribute to the sediment load in Permanente Creek. Through the implementation of BMPs during Project activities, when considered in combination with the impacts of other projects in the cumulative scenario, the Project's incremental contribution to sedimentation would not be cumulatively significant. However, because the BMPs would not be fully effective in preventing selenium-bearing discharges from entering Permanente Creek, the Project's incremental contribution to water quality impacts from selenium would be both individually and cumulatively significant. Once reclamation is complete, compliance with the various measures to stabilize slopes in the EMSA, manage storm water runoff, cap the EMSA and former WMSA with non-limestone materials, and revegetate these areas, selenium discharges would be substantially reduced and the impact to water quality would not be cumulatively considerable.

Aside from water quality impacts, the issue of drainage is perhaps most profound because the Project, when completed, would result in higher storm water flows leaving the site and entering Permanente Creek. This is in large part due to the backfilling of the Quarry pit, which under baseline conditions, acts like a large detention basin for the majority of site drainage. Once filled, stormwater that would otherwise be detained in the Quarry pit would be discharged to Permanente Creek. The impact of drainage is considered significant and unavoidable unless it is feasible to construct a detention basin capable of managing sediment and detaining peak flows from a 100-year event. While various detention basins are proposed for the Project and the drainage plan is designed to meet SMARA and Santa Clara County Drainage standards, the potential of downstream flooding would still exist unless mitigated.

Impact 6-2: Incremental Project-specific activities could contribute to downstream flooding. (Significant and Unavoidable Impact)

The Permanente Creek Flood Protection project is also likely to improve flow and reduce the potential of localized flooding along the upper reaches of Permanente Creek. Following Phase 3 of Project implementation, when storm flows no longer are captured in the Quarry pit, they would be discharged to Permanente Creek. This additional flow would cause an exceedence of the 100-year peak flow in a FEMA 100-year flood hazard zone located on the site and could exacerbate a flooding condition downstream and offsite. While the Permanente Flood Control Project may lessen the effects of future flooding in this reach of Permanente Creek, it is not known whether it would ameliorate flooding that could result from the increased 100-year peak flows released from the Project Area after the completion of reclamation. Therefore, when considered in combination

with the impacts of other projects in the cumulative scenario, the Project's incremental contribution to downstream flooding would be cumulatively considerable.

Mitigation Measure 6-2: Construction of Onsite Detention Facility. The Applicant shall design and construct facilities that would manage runoff on the site, reduce excessive discharges to Permanente Creek and develop the capacity to detain and release the 100-year flow using on-site detention ponds while optimizing groundwater infiltration. Desiltation ponds proposed in other smaller Project Areas such as the EMSA, also shall be engineered to function as detention basins and manage 100-year peak flow to the extent practical. These mechanisms would be in place to control and manage 100-year flows to Permanente Creek and verify that these flows are not increased.

Significance after Mitigation: Significant and unavoidable. Implementation of Mitigation Measure 6-2 would provide the necessary facilities to reduce offsite storm water discharge during the 100-year storm event. However, because it is unknown whether this mitigation measure is feasible, the impact would remain significant and unavoidable.

6.2.11 Land Use and Planning

The Project would have no impact with respect to physically dividing an established community or conflicting with applicable land use plans, policies, or regulations, or with special policies; therefore, it would not cause or contribute to any cumulative impact in these regards. Cumulative effects related to the Project's compatibility with adjacent land uses, such as adverse effects on adjacent recreational, open space, and residential land uses due to visual impacts, air pollutant emissions, noise, and traffic, are addressed in Sections 6.2.1, *Aesthetics, Visual Quality, and Light and Glare*; 6.2.3, *Air Quality*; 6.2.13, *Noise*; and 6.2.17, *Transportation/Traffic*, respectively.

6.2.12 Mineral Resources

The geographic scope of potential cumulative impacts related to mineral resources includes all areas in Santa Clara County that have been mapped as MRZ-2 (an area where the available geologic information indicates that mineral deposits are likely to exist, but the significance of the deposits is undetermined) or MRZ-3 (an area where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists). The temporal scope includes construction, operation and maintenance of the Project. The Project would cause less-than-significant impacts related to the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, and loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Two of the projects in the cumulative scenario involve mining activity adjacent to or within the Project site: cumulative projects (1) surface mining within the Project Area, (2) operation of the Permanente Cement Plant adjacent to the Project Area. In addition, there are seven surface mining sites subject to SMARA within Santa Clara County, four of which are actively engaged in extraction activities (Curtner, Lexington, Stevens Creek, and Freeman quarries) and three of which are in various stages of final reclamation (Serpa, Azevedo, and Calaveras quarries).

Reclamation of mining sites could make certain sites unavailable for future mineral resource extraction. However, for similar reasons outlined for the Project under Impact 4.12-1, reclamation of the other quarries included in the cumulative project list would not reduce the overall availability of mineral resources because reclamation of surface mining operations occur when the resource has been depleted, when continued extraction of the resource is infeasible from geotechnical standpoint, or when no longer economically advantageous. Because the quarries being reclaimed are no longer producing mineral resources, the combined effects of implementing the proposed Project and cumulative projects would not result in the loss of availability of a known mineral resource of value to the region or residents of the state, or the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Furthermore, like the Project, operation and reclamation of the cumulative project mining activities would be subject to the provisions of SMARA, the County's Surface Mining and Reclamation Ordinance (County Code §4.10.370), and by the County's Surface Mining and Land Reclamation Standards. Cumulative impacts consequently would be less than significant.

6.2.13 Noise

The geographic scope of cumulative impacts associated with noise would be limited to projects located within approximately 0.5 mile of the Project that could affect the existing noise environment in the Project Area, including nearby sensitive receptors and ambient noise levels. The past, present, and reasonably foreseeable future projects described in cumulative scenario include three projects that would be within 0.5 mile of the Project. These cumulative projects are identified in Figure 6-1, *Cumulative Projects*, and Table 6-1, *Lehigh Permanente Quarry Reclamation Plan Amendment Cumulative Impact Analysis Projects*, and include surface mining within the Project Area, operation of the Permanente Cement Plant, and the Permanente Creek Flood Protection Project. It should be noted that although several of the projects identified in Table 6-1 (including those farther than 0.5 from the site, such as the Stevens Creek Quarry) could generate offsite traffic on the same roads that would be used by the commuting employee vehicles and trucks that would be associated with the Project, the Project's daily contribution to trips would be up to approximately 30 one-way trips per day. This Project related increase in truck trips would not result in a cumulatively considerable increase to off-site traffic noise. The temporal scope of impacts would include the total duration of the Project.

With the exception of reclamation Phase 1, all noise and vibration related impacts of the Project would be less than significant. Reclamation Phase 1 would cause significant noise impacts associated with exceedances of the County's nighttime noise ordinance criteria and increases in ambient noise levels at the Cupertino Historical Society caretaker's residence, and exceedances of the City of Cupertino's noise ordinance at the Cristo Rey residential neighborhood. However, these impacts would be reduced to less-than-significant levels with implementation of Mitigation Measures 4.13-1a and 4.13-1b.

Ongoing surface mining within the Project Area and operation of the Permanente Cement Plant were ongoing activities in 2007, and as such, are part of the ambient noise conditions. When

considered in combination with the impacts of these cumulative projects, the Project's incremental contribution to noise levels at nearby residences would not be cumulatively considerable because the continued operation of these industrial facilities is not anticipated to substantially alter the ambient noise conditions in which they are located. Adverse effects to local noise levels due to these cumulative projects have already occurred, and continued operation of these facilities will maintain existing noise levels in the Project Area. It should be noted that although ongoing operation of the Permanente Cement Plant would continue concurrently with Project activities, surface mining at the quarry would cease during the Project, which would reduce the overall cumulative noise levels in the Project Area. Accordingly, the Project's contribution to cumulative noise impacts would not be cumulatively considerable.

Construction of the Permanente Creek Flood Protection Project would result in temporary noise levels related to grading for the flood basin, construction staging and materials storage areas, and other activities associated with construction vehicles and equipment. Affected residences would be the caretaker's residence and the residences on Cristo Rey Drive. Construction of the Permanente Creek Flood Protection Project could occur concurrent with reclamation Phase 1. As discussed in Section 4.13, *Noise*, Mitigation Measures 4.13-1a and 4.13-1b would reduce the significant impacts to these residences that would be caused by the Project, and at a distance of 0.5 mile, noise levels associated with the flood protection project would not be expected to cumulatively contribute to the impacts caused by the Project. Accordingly, the Project's contribution to cumulative noise impacts would not be cumulatively considerable and the cumulative impact would be less than significant.

6.2.14 Population and Housing

The Project would have no impact on Population and Housing; therefore, it would not cause or contribute to any cumulative impact in this regard.

6.2.15 Public Services

The Project would have no impact on Public Services; therefore, it would not cause or contribute to any cumulative impact in this regard.

6.2.16 Recreation

Implementation of the Project would cause no impact related to a potential increase in the use of existing neighborhood and regional parks or other recreational facilities in the Project area in such a way that could contribute to or accelerate their substantial physical deterioration, the inclusion of recreational facilities or a requirement for the construction or expansion of recreational facilities, or the loss of open space rated as high priority for acquisition in the "Preservation 2020" report. Therefore, it would not cause or contribute to any cumulative impact in these regards. However, the Project would cause a less than significant impact related to being near a public park and trail with the possibility of affecting existing or future recreational opportunities. The geographic scope of potential cumulative impacts for this recreation-related consideration includes the trails and recreation-related facilities and values surrounding the Project Area. The

temporal scope of cumulative impacts related to recreation is the interim period during which active reclamation activities would be in progress because the Project would have no impact on recreation after construction is completed.

The past, present, and reasonably foreseeable future projects described in Table 6-1 include one project located within recreational facilities in the vicinity of the Project: the Permanente Creek Flood Protection Project is located in the RSA Preserve/Park, approximately 0.5 mile north of the Project Area. Construction of this project could cause temporary indirect effects on the quality of recreational opportunities including degradation of views from the increased presence of construction equipment and increased levels of dust and noise in the vicinity of the project. However, disruption of the recreational experience would be limited to approximately 9 months during the first year of project construction. Moreover, cumulative effects to views (including construction dust) from recreational areas are addressed in Section 6.2.1, *Aesthetics, Visual Quality, Light and Glare*, and effects to recreational users from increased noise are addressed in Section 6.2.13, *Noise*. The combined effects of these two projects on recreational use would not result in significant and adverse recreation-related conditions, and the incremental impact of the Project would not be cumulatively considerable.

6.2.17 Transportation/Traffic

Cumulative transportation and traffic impacts resulting from the Project would occur if similar impacts of other projects located within the geographic extent of this analysis were to occur during the same time period as those impacts of the Project, including during each reclamation phase.

Overlapping and concurrent activities would result in increased traffic volumes along roadways due to the presence of vehicles from multiple projects in the same vicinity. The past, present, and reasonably foreseeable future projects described in cumulative scenario include three projects that would be within 0.5 mile of the Project. Reclamation activities associated with the Project would contribute incrementally to cumulative traffic increases from a number of other projects in the area that could be under construction at the same time. The combination of activities from these multiple projects could result in adverse cumulative impacts related to transportation conditions roadways in the Project Area. These cumulative projects are identified in Figure 6-1, *Cumulative Projects*, and Table 6-1, and include surface mining within the Project Area, operation of the Permanente Cement Plant, the Permanente Creek Long-Term Restoration Plan, and the Permanente Creek Flood Protection Project. The temporal scope of impacts would include the total duration of the Project.

Under each reclamation phase, all transportation and traffic related impacts of the Project, including effects on traffic flow and traffic safety conditions along affected roadways, and emergency access, would be less than significant.

Surface mining within the Project Area and operation of the Permanente Cement Plant were ongoing activities in 2007, and as such, are part of the baseline traffic conditions. When considered in combination with the impacts of the above-cited cumulative projects, the Project's

incremental contribution to traffic along nearby roadways would not be cumulatively considerable because the current operations of the projects, in combination with the Project would not result in any adverse transportation and traffic impacts to the surrounding circulation system.

Construction of the Permanente Creek Flood Protection Project could result in a temporary increase in traffic along roadways in the Project Area, due to activities associated with construction vehicles and hauling of materials. As stated in Table 6-1, excavation and export of spoils from this project may occur on Lehigh property; therefore the project would generate no external vehicle trips. Because there would be a minimal amount of external, daily traffic associated with the Project during each reclamation phase, and the Permanente Creek Flood Protection Project would not be expected to generate any external trips, the Project, in combination with the flood protection project, would not be cumulatively considerable, and the cumulative impacts would be less than significant.

The Project's less-than-significant impact on transportation and traffic conditions would be limited to the interim phase during which active reclamation is occurring. Generation of traffic by other development projects would not combine with the Project's contribution to create a cumulatively considerable impact because roadways that serve the Project have sufficient capacity to accommodate the anticipated, temporary increase in traffic from the Project and nearby projects. Therefore, implementation of the Project would not result in a cumulative transportation impact or result in an incremental contribution to a cumulative transportation impact.

6.2.18 Utilities and Service Systems

Implementation of the Project would cause no impact related to an exceedance of the wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board; the construction of new or expansion of existing storm water drainage facilities; wastewater treatment capacity; or compliance with federal, state, and local statutes and regulations related to solid waste. Therefore, it would not cause or contribute to any cumulative impact in this regard. As analyzed in Section 4.18.5, the Project would cause a less than significant impact related to other utilities and service systems-related considerations. The geographic scope of cumulative impacts related to utilities and service systems is Santa Clara County, which encompasses the service areas of the providers that would serve the Project. The temporal scope of cumulative impacts related to utilities and service systems includes the construction, operation, and maintenance of the Project because utilities and service systems would be necessary for the duration of the Project.

SJWC supplies water to over 1 million people in the greater San Jose metropolitan area, including the Project Area and surrounding locations. The County is also served by 12 other water retailers. The Project's less-than-significant impact on sufficient water supplies would be limited to reclamation Phase 2, during which time the Project could demand an increase of approximately 3.5 million gallons of water above baseline conditions. Therefore, cumulative impacts would be limited to projects occurring during the same time period (2021-2025), that also require water from SJWC. However, the projects listed in Table 6-1 either are ongoing (and so already part of the water usage baseline), reclamation plans that are not anticipated to have major water usage, or construction projects that are expected to be completed well before 2021. Furthermore, SJWC has

indicated that the Project's increase in water would be available from its sources (Sneed, 2011). Therefore, no cumulative impact or incremental contribution to a cumulative impact would result from implementation of the Project.

The Project's less-than-significant impact on solid waste generation would be limited to the interim phase during which active reclamation is occurring. Generation of solid waste by other development projects would not combine with the Project's contribution to create a cumulatively considerable impact because the landfills serving the Project have sufficient capacity to accommodate the regional waste needs for several decades. Therefore, no cumulative impact or incremental contribution to a cumulative impact would result from implementation of the Project.

Resources – Cumulative Impacts

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